

HITACHI

SM9100

PDV302

PDV302E



SERVICE MANUAL MANUEL D'ENTRETIEN WARTUNGSHANDBUCH

CAUTION:

Before servicing this chassis, it is important that the service technician read the "Safety Precautions" and "Product Safety Notices" in this service manual.

ATTENTION:

Avant d'effectuer l'entretien du châassis, le technicien doit lire les «Précautions de sécurité» et les «Notices de sécurité du produit» présentés dans le présent manuel.

VORSICHT:

Vor Öffnen des Gehäuses hat der Service-Ingenieur die „Sicherheitshinweise“ und „Hinweise zur Produktsicherheit“ in diesem Wartungshandbuch zu lesen.

Data contained within this Service manual is subject to alteration for improvement.

Les données fournies dans le présent manuel d'entretien peuvent faire l'objet de modifications en vue de perfectionner le produit.

Die in diesem Wartungshandbuch enthaltenen Spezifikationen können sich zwecks Verbesserungen ändern.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

DVD Player
October 2004

Service Manual

PDV302 PORTABLE DVD PLAYER WITH 7" TFT DISPLAY

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SPECIFICATIONS

DVD PLAYER SECTION

Laser Type	:	Semiconductor laser
Disc Diameter	:	12/8 cm
Video Decoding	:	MPEG-2
Video DAC	:	10 Bits
Video Formats	:	4:3 / 16:9
Video Color System Format	:	NTSC, PAL
Audio DAC	:	24 Bits / 96 kHz

Audio section

Item	Unit	Limit
Output level R/L (ch)	mV	850 ± 100
S/N Ratio (A-Weighted)	dB	80
Dynamic range (A-Weighted)	dB	80
Channel separation R/L (ch) (A-Weighted)	dB	66
Distortion	%	0.3
Optical digital output level	V	---
Frequency response @ 20 / 20 kHz R/L (ch)	dB	0 ± 3

Speaker output

Item	Unit	Limit
10% Output power	mW	>700
S/N ratio (A-Weighted)	dB	60
Channel separation R/L (ch) (A-Weighted)	dB	55
Distortion	%	<1
Frequency response @ 100 / 20 kHz R/L (ch)	dB	0 ± 6

Headphone output

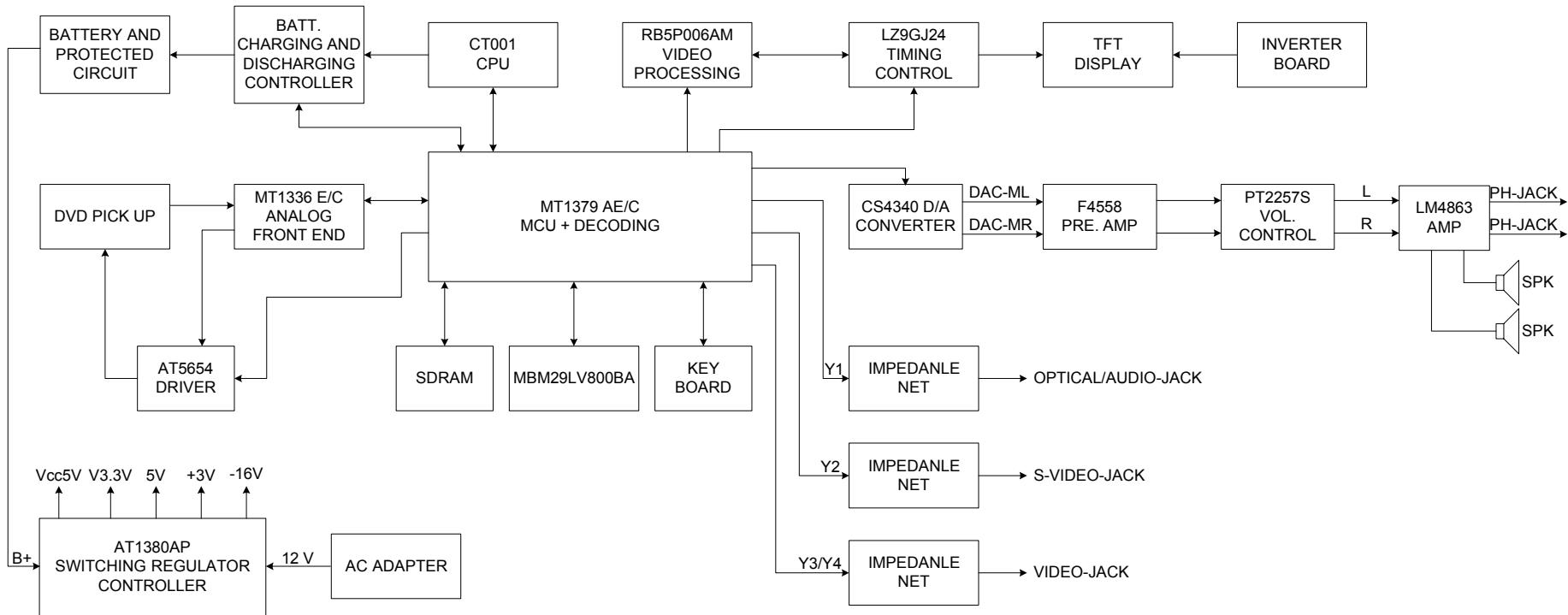
Item	Unit	Limit
Output power	mW	>30
S/N ratio (A-Weighted)	dB	60
Channel separation R/L (ch) (A-Weighted)	dB	55
Distortion	%	<1
Frequency response @ 100 / 20 kHz R/L (ch)	dB	0 ± 6

Headphone output

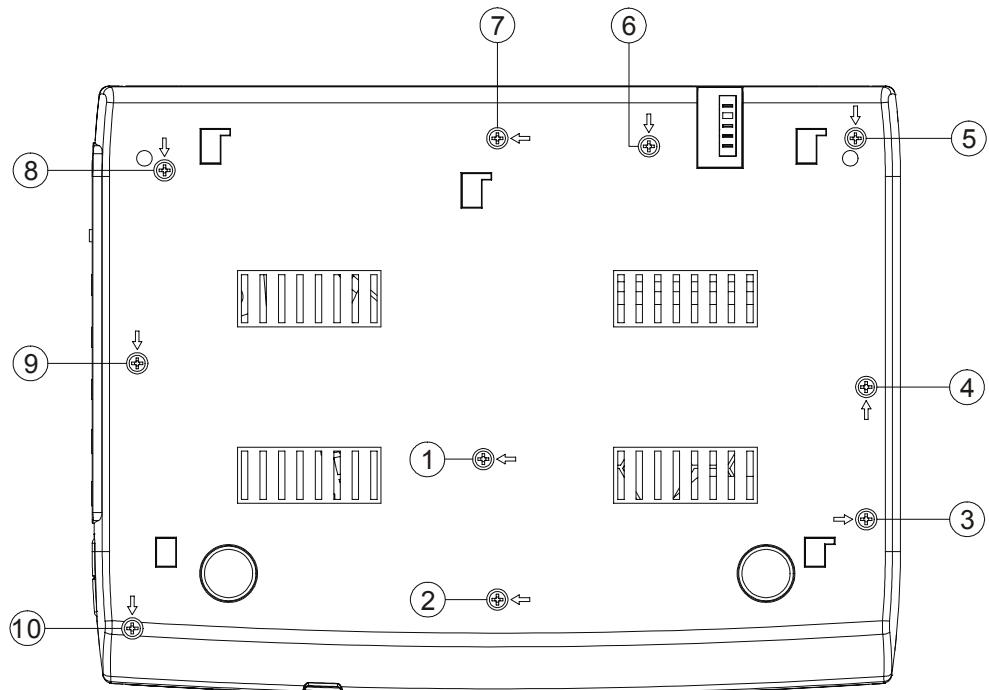
Item	Unit	Limit
C-Video output level	Vp-p	1.0 ± 0.1
S-Video output level	Y	Vp-p
	C	Vp-p
		0.3 ± 0.1

BLOCK DIAGRAM

3



DISASSEMBLY INSTRUCTIONS



DETACH REAR CABINET FROM FRONT CABINET MUST REMOVE 10 SCREWS.

TFT-LCD DRIVER BOARD ALIGNMENT

OSC FREQUENCY ADJUSTMENT

1. Adjust the voltage of VR-OSC to -1.2 ~ -1.6 V.
2. Turn off and turn on unit.
3. Measure the frequency between VD716 and R781 with X10 probe. It should be 19.8 ~ 20 MHz, and the value should be steady comparatively.

VCO CHECK

Measure the frequency between X601 and X602 with X10 probe. at NTSC system, the frequency is 3.579545 MHz (± 1 kHz), when change to PAL system by remote, the frequency is 4.433619 MHz (± 1 kHz).

IMAGE CENTER POSITION ADJUSTMENT

Playing VCD test disc, make the image locate center of TFT panel by adjustment VR-BCK.

DRIVER BOARD FUNCTION CHECK

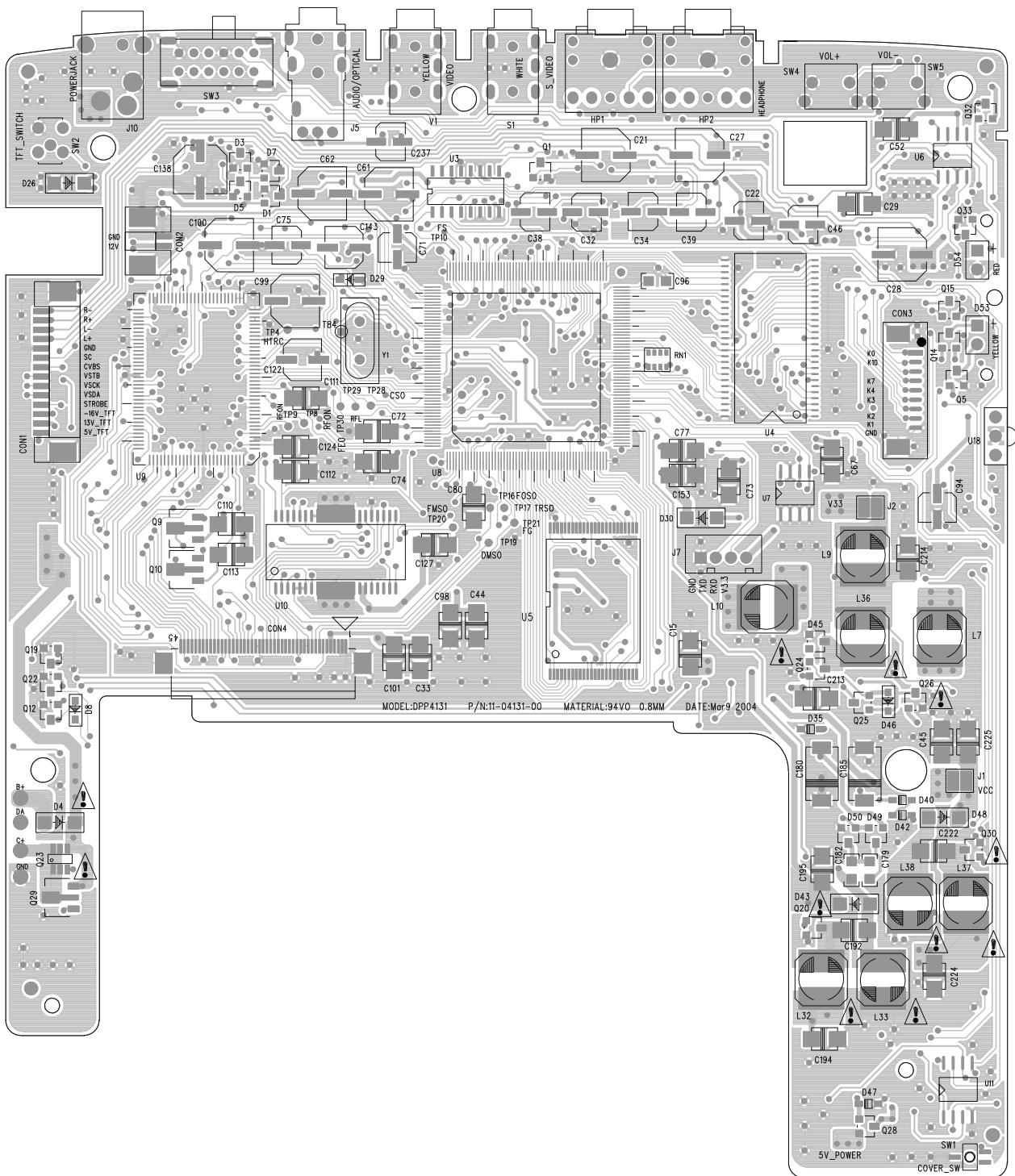
1. Image reverse check:
press "reverse display" key on key board, the image on TFT panel can be 180° reversed.
2. NTSC / PAL switchover check:
switch NTSC / PAL system by remote, there are a obviously color change on TFT panel, but the color change can not be colorless.

TROUBLESHOOTING

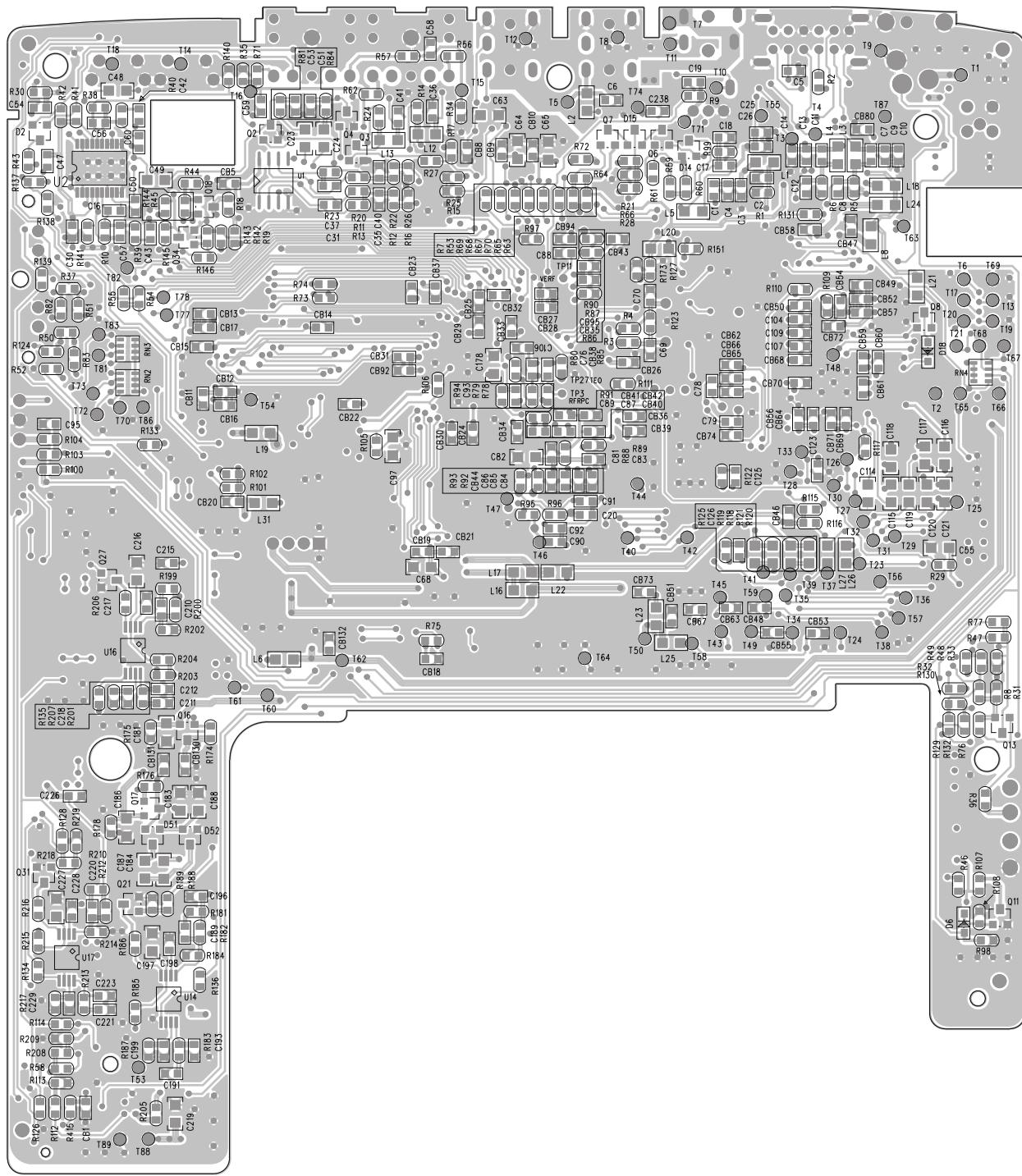
Item	Symptom	Cause and Remedy
1	No power	<ul style="list-style-type: none"> • Check if power plug is properly connected. • Check if there is power at the AC outlet by plugging in another appliance.
2	No picture	<ul style="list-style-type: none"> • Check if the TV is connected and switched on. • Select the correct AV input on the TV. • Check the video connection. • Check channel selector is set to AV on the TV (See your TV manual for instructions).
3	Distorted picture	<ul style="list-style-type: none"> • Check the disc for fingerprints and clean with soft cloth, wiping from centre to edge. • Sometimes a small amount of picture distortion may appear. This is not a malfunction.
4	Completely Distorted picture	<ul style="list-style-type: none"> • The disc is not formatted to the TV-set used (PAL/NTSC).
5	No color in picture (when connects to TV)	<ul style="list-style-type: none"> • The disc is not formatted to the TV-set used (PAL/NTSC). • Ensure DVD Player is not connected through VCR.
6	Disc can't be played	<ul style="list-style-type: none"> • Ensure the disc is label side up. • Clean the disc. • Check if the disc is defective by trying another disc.
7	No sound	<ul style="list-style-type: none"> • Check audio connections. • Make sure the sound setup of DVD disc is correct.
8	No return to start-up screen when disc is removed	<ul style="list-style-type: none"> • Check to see if the program requires another disc to be loaded. • Reset by unplugging the player from the power supply, then connect the power supply again.
9	The player does not respond to the remote control	<ul style="list-style-type: none"> • Aim the remote control directly at the sensor on the front of the player. • Avoid all obstacles which may interfere with the signal path. • Inspect or replace the batteries.
10	No audio at digital output	<ul style="list-style-type: none"> • Check the digital connections. • Check the digital out menu to make sure that the digital output is correctly set. • Check if the audio format of the selected audio language matches your receiver capabilities.
11	Buttons do not work	<ul style="list-style-type: none"> • Unplug the player from power outlet and reconnect after a few seconds.
12	You have forgotten the password	<ul style="list-style-type: none"> • The defaulted password is 6789.

PRINTED CIRCUIT BOARDS

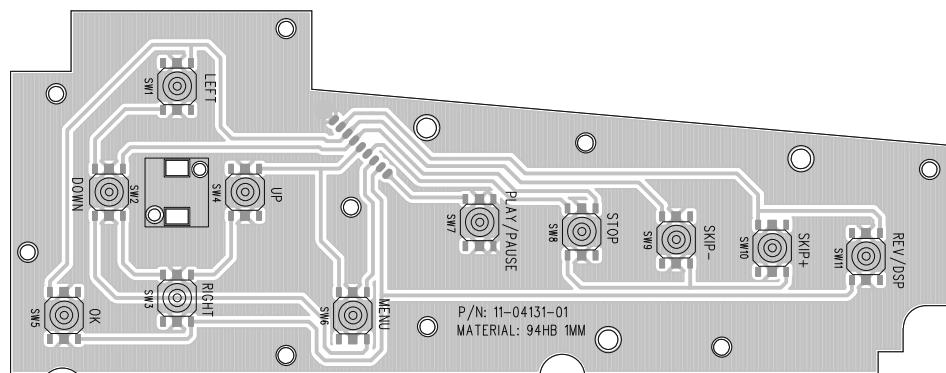
MAIN PCB (Top View)



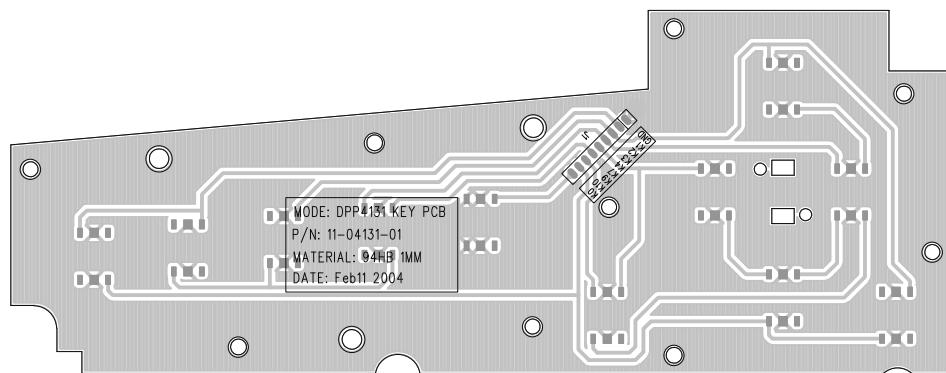
MAIN PCB (Bottom View)



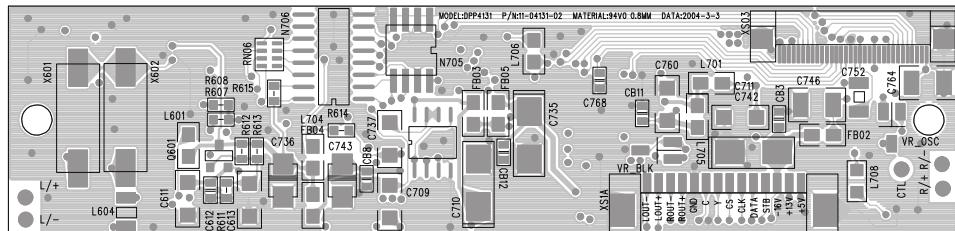
KEY PCB (Top View)



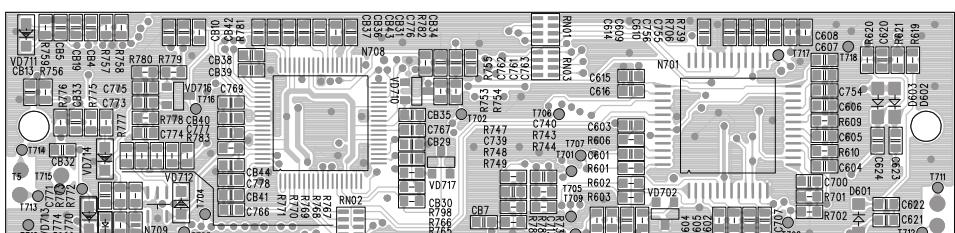
KEY PCB (Bottom View)



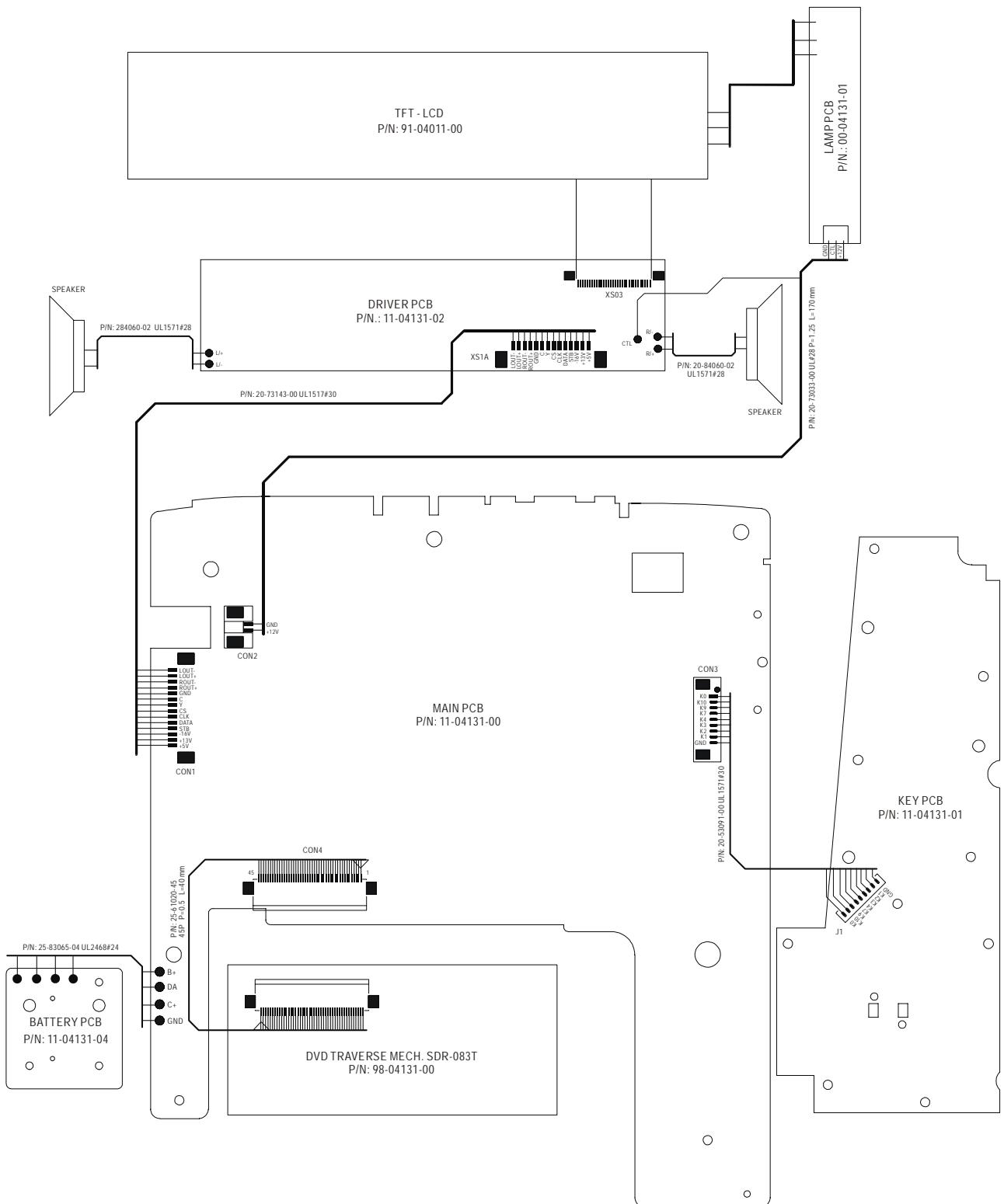
DRIVER PCB (Top View)



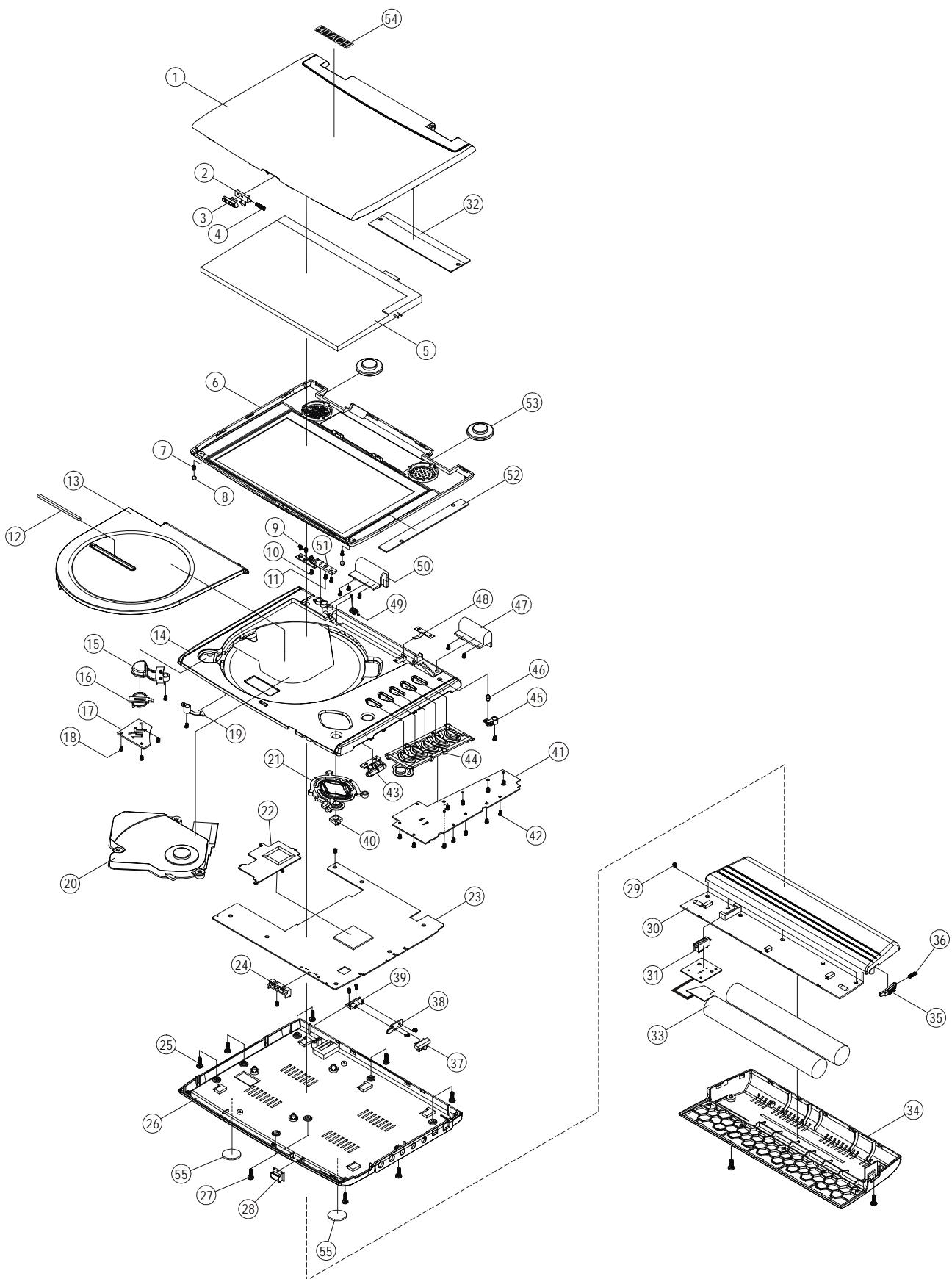
DRIVER PCB (Bottom View)



WIRING DIAGRAM



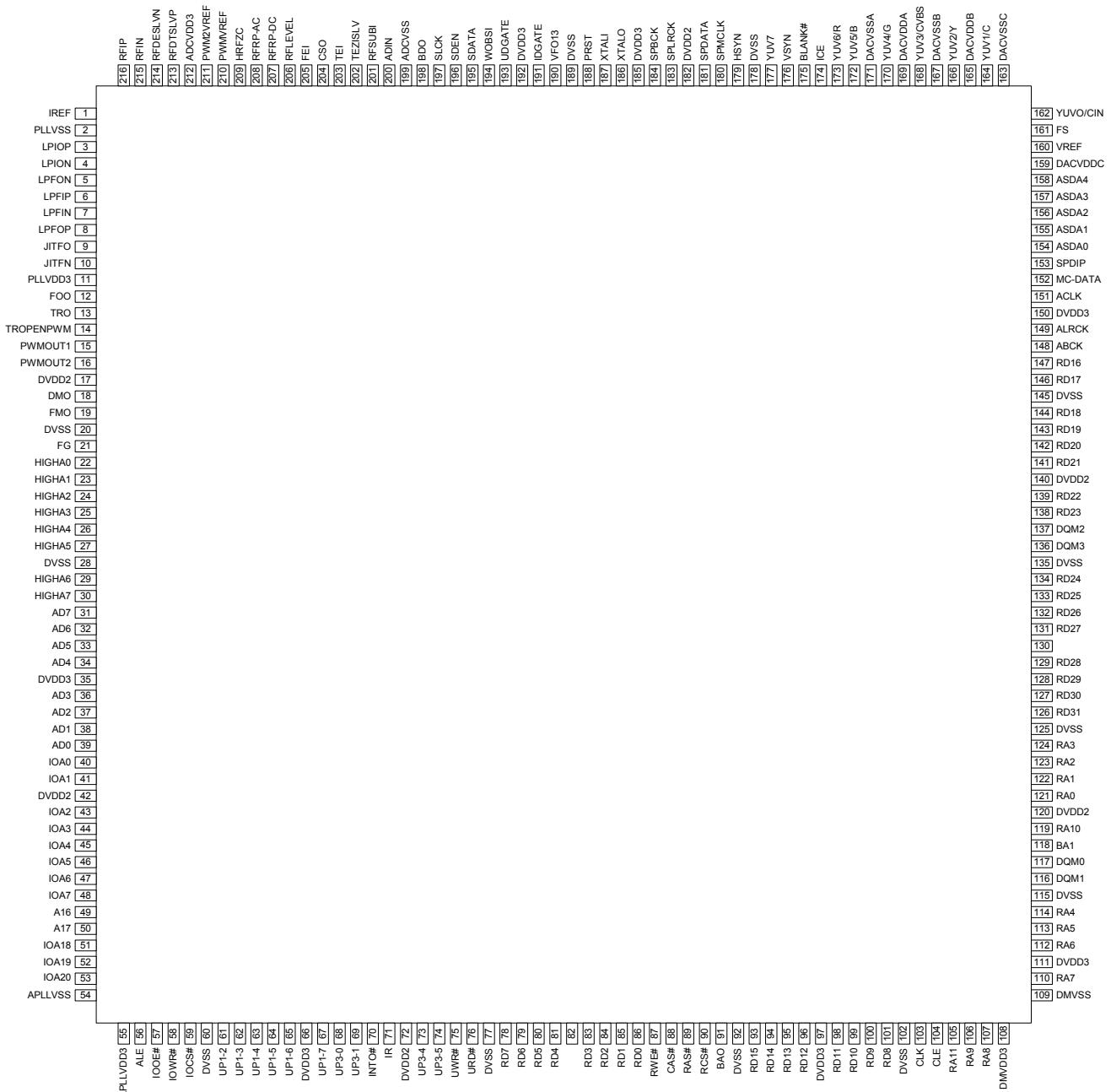
EXPLODED VIEW



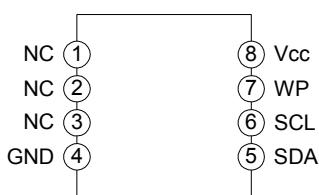
**THE UPDATED PARTS LIST
FOR THIS MODEL IS
AVAILABLE ON ESTA**

IC LEAD IDENTIFICATION AND INTERNAL DIAGRAM

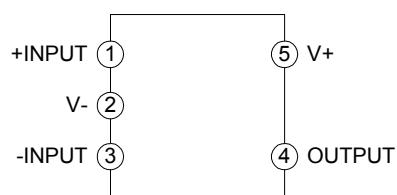
MT1379A/E



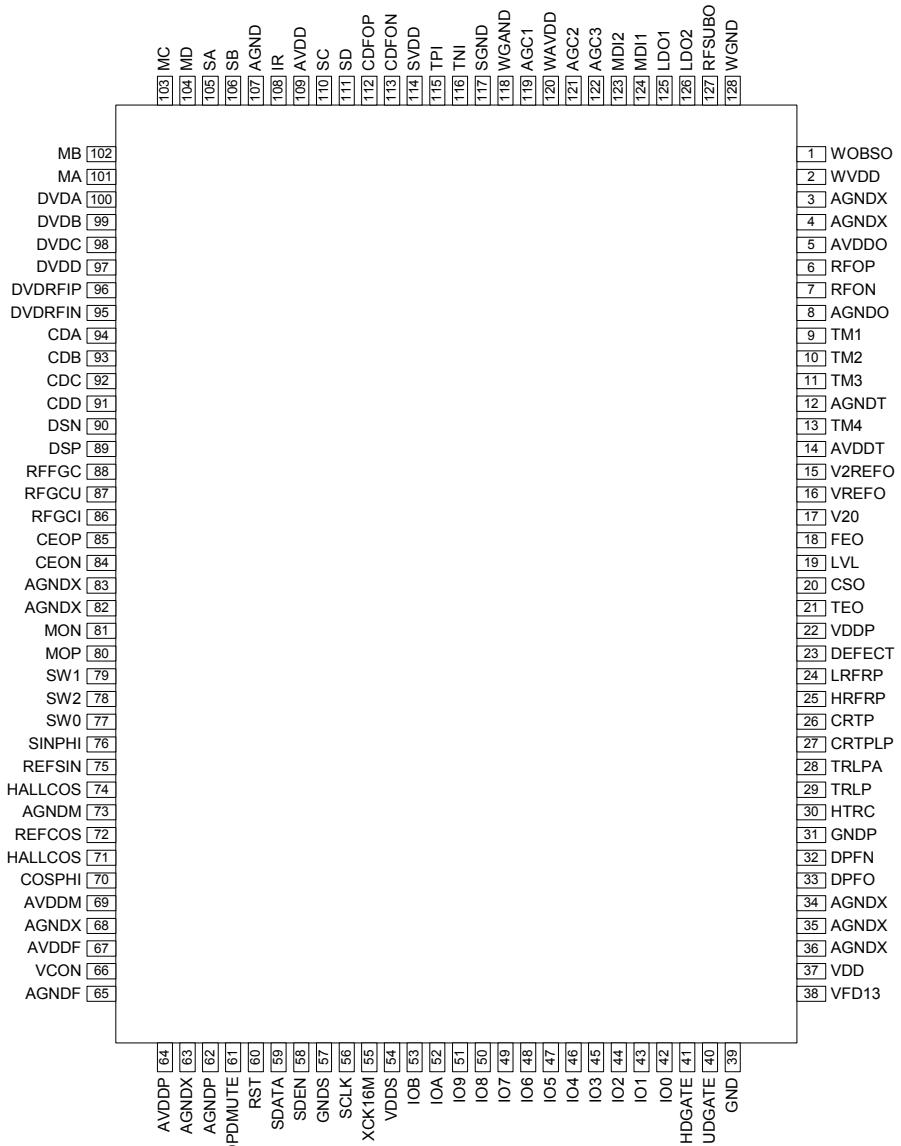
BR24C02F



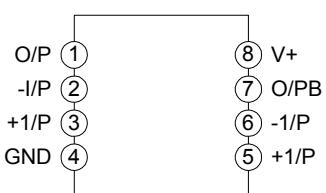
NTM2107F



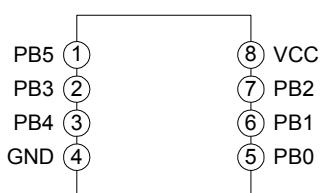
MT1336E/C



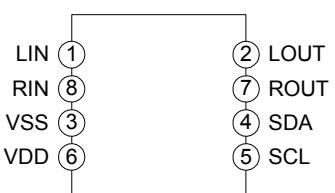
NUM3414AM



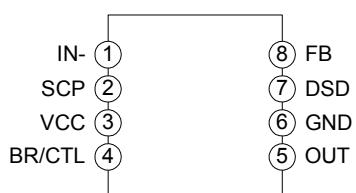
CT001



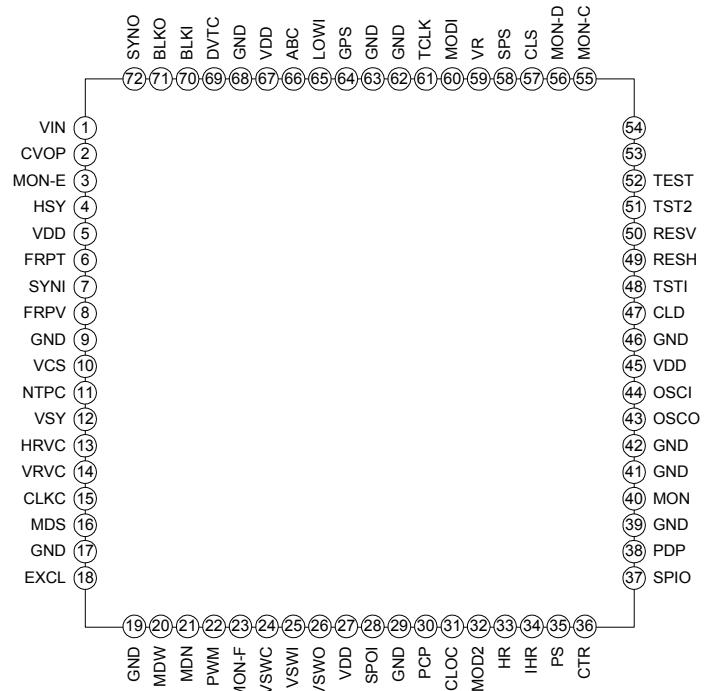
PT2257



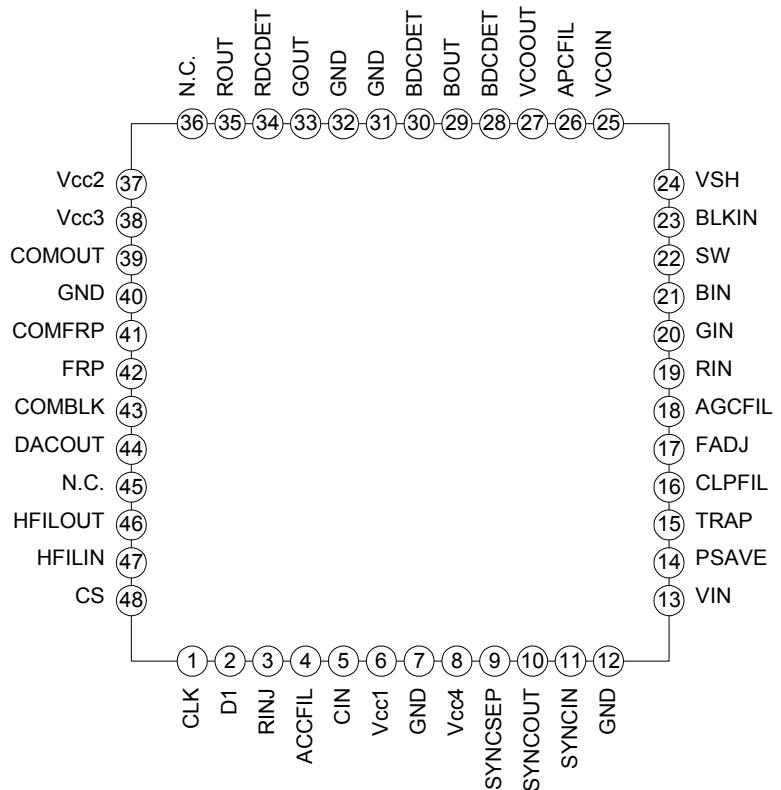
AT1380A



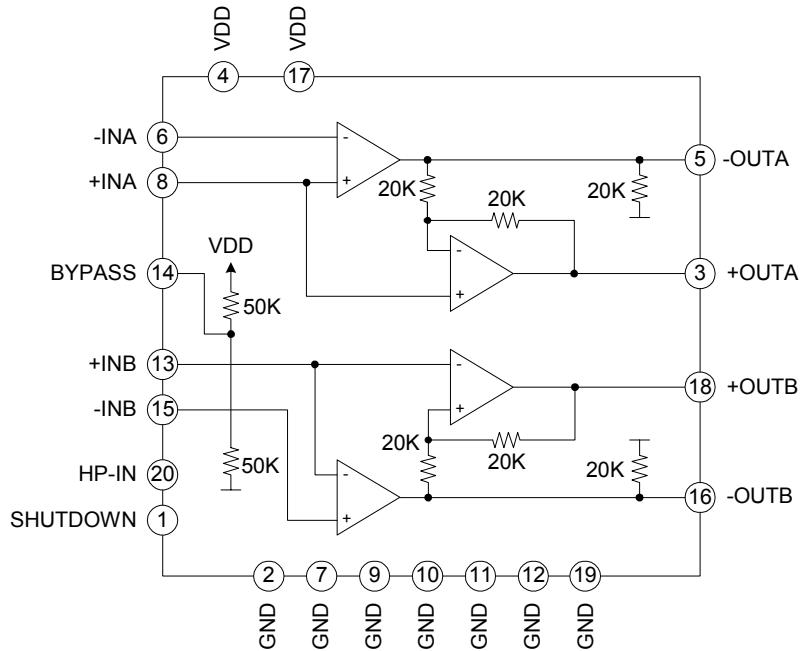
LZ9GJ24



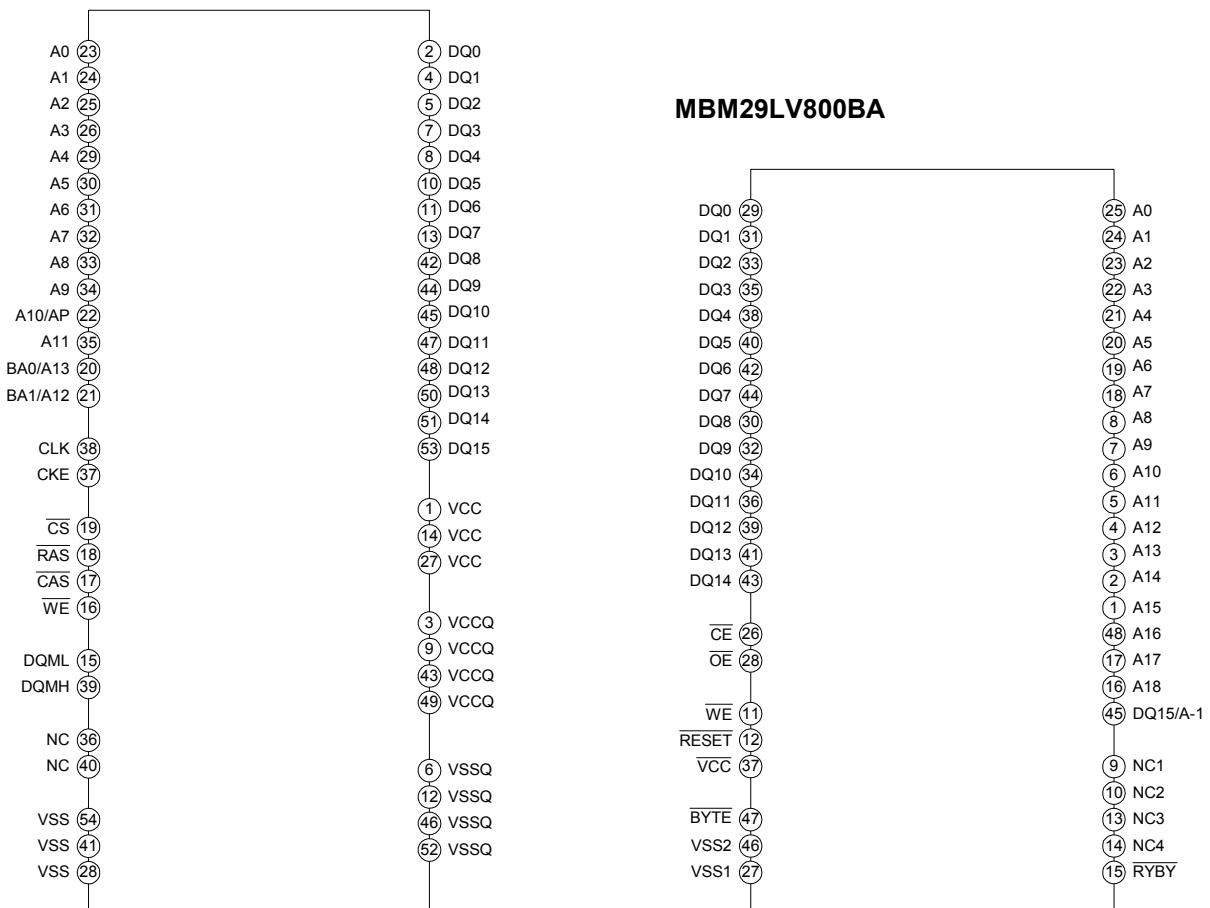
BR5P006AM

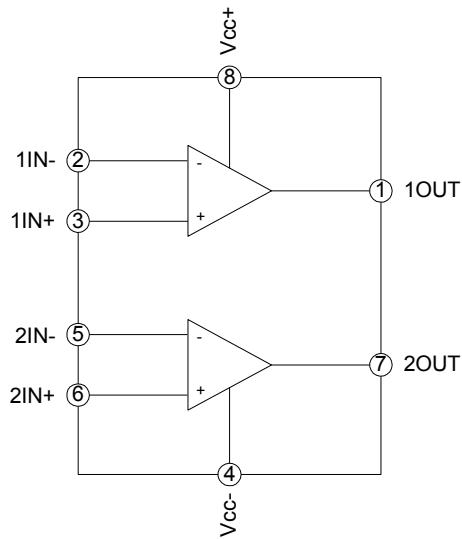
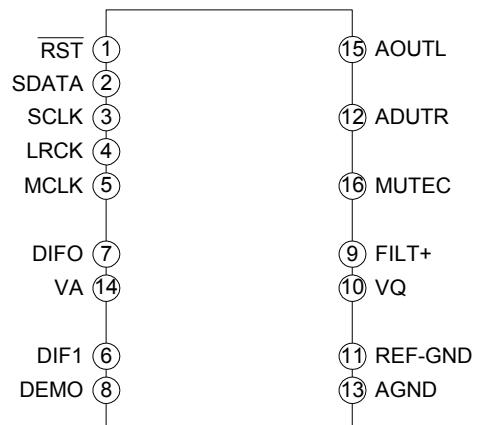
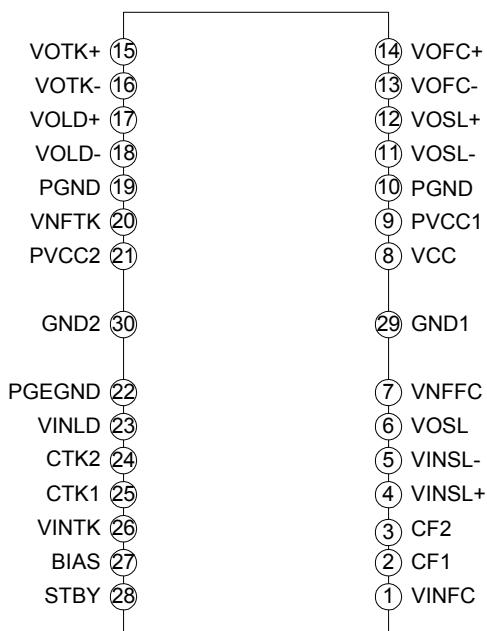
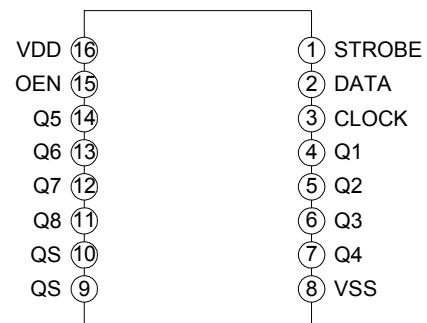


LM4863



1M X 16 X 4



F4558**CS4340****AT5654****CD4094BNSR**

VOLTAGE CHARTS

U8 MT1379AE/C							
PIN 1	1.19 V	PIN 55	3.08 V	PIN 109	0 V	PIN 163	0 V
PIN 2	0 V	PIN 56	1.13 V	PIN 110	1.41 V	PIN 164	0.83 V
PIN 3	0.94 V	PIN 57	0 V	PIN 111	3.11 V	PIN 165	3.07 V
PIN 4	1.96 V	PIN 58	3.11 V	PIN 112	1.52 V	PIN 166	0.74 V
PIN 5	1.52 V	PIN 59	1.54 V	PIN 113	1.54 V	PIN 167	0 V
PIN 6	1.45 V	PIN 60	0 V	PIN 114	1.54 V	PIN 168	0.78 V
PIN 7	1.45 V	PIN 61	/	PIN 115	0 V	PIN 169	3.07 V
PIN 8	1.56 V	PIN 62	4.96 V	PIN 116	1.81 V	PIN 170	0.44 V
PIN 9	0.96 V	PIN 63	2.89 V	PIN 117	1.81 V	PIN 171	0 V
PIN 10	0.97 V	PIN 64	2.96 V	PIN 118	1.75 V	PIN 172	3.01 V
PIN 11	3.06 V	PIN 65	3.11 V	PIN 119	/	PIN 173	3.01 V
PIN 12	1.49 V	PIN 66	3.11 V	PIN 120	2.29 V	PIN 174	0 V
PIN 13	1.4 V	PIN 67	3.11 V	PIN 121	0.7 V	PIN 175	2.73 V
PIN 14	/	PIN 68	0 V	PIN 122	2.08 V	PIN 176	/
PIN 15	/	PIN 69	0.08 V	PIN 123	1.93 V	PIN 177	2.73 V
PIN 16	0 V	PIN 70	3.93 V	PIN 124	1.51 V	PIN 178	0 V
PIN 17	2.3 V	PIN 71	4.98 V	PIN 125	0 V	PIN 179	0 V
PIN 18	1.62 V	PIN 72	2.3 V	PIN 126	3.11 V	PIN 180	3.08 V
PIN 19	1.52 V	PIN 73	3.89 V	PIN 127	3.11 V	PIN 181	3.08 V
PIN 20	0 V	PIN 74	3.11 V	PIN 128	3.11 V	PIN 182	2.29 V
PIN 21	2.42 V	PIN 75	/	PIN 129	3.59 V	PIN 183	2.75 V
PIN 22	1.47 V	PIN 76	/	PIN 130	3.11 V	PIN 184	2.74 V
PIN 23	1.6 V	PIN 77	0 V	PIN 131	3.11 V	PIN 185	3.17 V
PIN 24	1.44 V	PIN 78	0.92 V	PIN 132	3.11 V	PIN 186	1.56 V
PIN 25	1.64 V	PIN 79	0.63 V	PIN 133	3.11 V	PIN 187	1.53 V
PIN 26	1.79 V	PIN 80	0.79 V	PIN 134	3.11 V	PIN 188	0 V
PIN 27	1.88 V	PIN 81	1.1 V	PIN 135	0 V	PIN 189	0 V
PIN 28	0 V	PIN 82	2.3 V	PIN 136	3.11 V	PIN 190	0 V
PIN 29	1.95 V	PIN 83	1.38 V	PIN 137	3.11 V	PIN 191	0 V
PIN 30	1.98 V	PIN 84	0.96 V	PIN 138	2.85 V	PIN 192	3.11 V
PIN 31	1.05 V	PIN 85	1.38 V	PIN 139	2.85 V	PIN 193	3.11 V
PIN 32	0.68 V	PIN 86	1.5 V	PIN 140	2.29 V	PIN 194	0 V
PIN 33	0.94 V	PIN 87	3.05 V	PIN 141	2.85 V	PIN 195	0 V
PIN 34	0.72 V	PIN 88	2.83 V	PIN 142	2.85 V	PIN 196	0 V
PIN 35	3.11 V	PIN 89	2.99 V	PIN 143	4.79 V	PIN 197	1.53 V
PIN 36	1.02 V	PIN 90	2.7 V	PIN 144	/	PIN 198	0 V
PIN 37	1.04 V	PIN 91	1.5 V	PIN 145	0 V	PIN 199	0 V
PIN 38	1.74 V	PIN 92	0 V	PIN 146	0 V	PIN 200	0.86 V
PIN 39	1.48 V	PIN 93	1.74 V	PIN 147	0 V	PIN 201	0.84 V
PIN 40	1.82 V	PIN 94	1.6 V	PIN 148	1.55 V	PIN 202	1.4 V
PIN 41	1.98 V	PIN 95	1.6 V	PIN 149	1.46 V	PIN 203	1.43 V
PIN 42	2.3 V	PIN 96	1.61 V	PIN 150	3.11 V	PIN 204	2.98 V
PIN 43	1.88 V	PIN 97	3.11 V	PIN 151	1.59 V	PIN 205	1.26 V
PIN 44	1.88 V	PIN 98	1.55 V	PIN 152	/	PIN 206	1.97 V
PIN 45	1.79 V	PIN 99	1.51 V	PIN 153	1.56 V	PIN 207	1.22 V
PIN 46	1.64 V	PIN 100	1.57 V	PIN 154	1.56 V	PIN 208	1.45 V
PIN 47	1.44 V	PIN 101	1.64 V	PIN 155	/	PIN 209	1.47 V
PIN 48	0.79 V	PIN 102	0 V	PIN 156	/	PIN 210	1.46 V
PIN 49	0.03 V	PIN 103	1.7 V	PIN 157	3.11 V	PIN 211	2.81 V
PIN 50	0.02 V	PIN 104	0.75 V	PIN 158	3.11 V	PIN 212	3.11 V
PIN 51	1.51 V	PIN 105	0.05 V	PIN 159	3.07 V	PIN 213	0.87 V
PIN 52	0 V	PIN 106	0.04 V	PIN 160	1.25 V	PIN 214	0.85 V
PIN 53	/	PIN 107	0.04 V	PIN 161	1.22 V	PIN 215	1.46 V
PIN 54	0 V	PIN 108	3.08 V	PIN 162	/	PIN 216	1.46 V

U9 MT1336E/C						U4 1M X 16 X 4	
PIN 1	0 V	PIN 55	0.3 V	PIN 109	3.09 V	PIN 1	3.11 V
PIN 2	3.1 V	PIN 56	1.56 V	PIN 110	2.03 V	PIN 2	1.08 V
PIN 3	0 V	PIN 57	0 V	PIN 111	2.03 V	PIN 3	3.11 V
PIN 4	0 V	PIN 58	0 V	PIN 112	2.02 V	PIN 4	1.32 V
PIN 5	3.1 V	PIN 59	0 V	PIN 113	2.02 V	PIN 5	1.01 V
PIN 6	0.79 V	PIN 60	0 V	PIN 114	3.09 V	PIN 6	0 V
PIN 7	0.8 V	PIN 61	0 V	PIN 115	2.02 V	PIN 7	1.01 V
PIN 8	0 V	PIN 62	0 V	PIN 116	2.02 V	PIN 8	1.02 V
PIN 9	3.1 V	PIN 63	0 V	PIN 117	0 V	PIN 9	3.11 V
PIN 10	3.1 V	PIN 64	3.1 V	PIN 118	0 V	PIN 10	0.86 V
PIN 11	3.1 V	PIN 65	0 V	PIN 119	0 V	PIN 11	0.5 V
PIN 12	0 V	PIN 66	0.95 V	PIN 120	3.09 V	PIN 12	0 V
PIN 13	3.1 V	PIN 67	3.1 V	PIN 121	0 V	PIN 13	0.78 V
PIN 14	3.1 V	PIN 68	0 V	PIN 122	0 V	PIN 14	3.11 V
PIN 15	2.8 V	PIN 69	3.1 V	PIN 123	0.18 V	PIN 15	1.96 V
PIN 16	1.45 V	PIN 70	1.1 V	PIN 124	0.02 V	PIN 16	2.9 V
PIN 17	2.05 V	PIN 71	0.32 V	PIN 125	3.05 V	PIN 17	2.57 V
PIN 18	1.38 V	PIN 72	0.85 V	PIN 126	1.93 V	PIN 18	2.96 V
PIN 19	2.1 V	PIN 73	0 V	PIN 127	0 V	PIN 19	2.43 V
PIN 20	0.06 V	PIN 74	1.25 V	PIN 128	0 V	PIN 20	1.11 V
PIN 21	1.44 V	PIN 75	0.23 V			PIN 21	1.15 V
PIN 22	3.1 V	PIN 76	0.4 V			PIN 22	0.03 V
PIN 23	0 V	PIN 77	0.3 V			PIN 23	0.15 V
PIN 24	1.6 V	PIN 78	0.3 V			PIN 24	1.27 V
PIN 25	1.02 V	PIN 79	0.7 V			PIN 25	2.02 V
PIN 26	1.66 V	PIN 80	1.12 V			PIN 26	1.52 V
PIN 27	0 V	PIN 81	1.16 V			PIN 27	3.11 V
PIN 28	0 V	PIN 82	0 V			PIN 28	0 V
PIN 29	1.4 V	PIN 83	0 V			PIN 29	1.44 V
PIN 30	1.5 V	PIN 84	1.33 V			PIN 30	1.57 V
PIN 31	0 V	PIN 85	1.34 V			PIN 31	1.49 V
PIN 32	0 V	PIN 86	1.45 V			PIN 32	0.04 V
PIN 33	0.65	PIN 87	1.5 V			PIN 33	0.04 V
PIN 34	0 V	PIN 88	0.93 V			PIN 34	3.02 V
PIN 35	0 V	PIN 89	1.4 V			PIN 35	1.2 V
PIN 36	0 V	PIN 90	1.43 V			PIN 36	/
PIN 37	3.1 V	PIN 91	/			PIN 37	0.3 V
PIN 38	0 V	PIN 92	/			PIN 38	1.1 V
PIN 39	0 V	PIN 93	0.28 V			PIN 39	0.7 V
PIN 40	0 V	PIN 94	0.28 V			PIN 40	/
PIN 41	0 V	PIN 95	1.64 V			PIN 41	0 V
PIN 42	0 V	PIN 96	1.64 V			PIN 42	0.9 V
PIN 43	0 V	PIN 97	1.55 V			PIN 43	3.1 V
PIN 44	0 V	PIN 98	1.55 V			PIN 44	0.8 V
PIN 45	0 V	PIN 99	1.55 V			PIN 45	1.1 V
PIN 46	2.45 V	PIN 100	1.55 V			PIN 46	0 V
PIN 47	2.37 V	PIN 101	2.08 V			PIN 47	1.6 V
PIN 48	2.85 V	PIN 102	2.08 V			PIN 48	0.6 V
PIN 49	0 V	PIN 103	2.03 V			PIN 49	3.1 V
PIN 50	3.06 V	PIN 104	2.06 V			PIN 50	1.1 V
PIN 51	3.06 V	PIN 105	2.11 V			PIN 51	0.3 V
PIN 52	3.08 V	PIN 106	2.11 V			PIN 52	0 V
PIN 53	2.3 V	PIN 107	0 V			PIN 53	0.8 V
PIN 54	3.1 V	PIN 108	0.88 V			PIN 54	0 V

N708 LZ9GJ24				N701 RB5P006AM		U5 MBM29LV800BA	
PIN 1	4.28 V	PIN 49	4.85 V	PIN 1	4.99 V	PIN 1	0.03 V
PIN 2	2.38 V	PIN 50	0.03 V	PIN 2	0.16 V	PIN 2	0.44 V
PIN 3	0 V	PIN 51	4.85 V	PIN 3	0.72 V	PIN 3	0.45 V
PIN 4	0.21 V	PIN 52	4.89 V	PIN 4	0 V	PIN 4	3.11 V
PIN 5	0 V	PIN 53	0 V	PIN 5	4.54 V	PIN 5	0.02 V
PIN 6	0 V	PIN 54	0 V	PIN 6	3.02 V	PIN 6	1.24 V
PIN 7	2.39 V	PIN 55	0 V	PIN 7	3.04 V	PIN 7	0.18 V
PIN 8	2.34 V	PIN 56	0.02 V	PIN 8	0 V	PIN 8	1.37 V
PIN 9	4.85 V	PIN 57	4.89 V	PIN 9	4.88 V	PIN 9	1.63 V
PIN 10	0 V	PIN 58	4.8 V	PIN 10	0.16 V	PIN 10	0 V
PIN 11	1.86 V	PIN 59	0 V	PIN 11	4.5 V	PIN 11	3.11 V
PIN 12	4.85 V	PIN 60	4.85 V	PIN 12	0 V	PIN 12	3.11 V
PIN 13	4.74 V	PIN 61	4.85 V	PIN 13	4.09 V	PIN 13	0 V
PIN 14	4.55 V	PIN 62	0 V	PIN 14	13.08 V	PIN 14	1.53 V
PIN 15	4.85 V	PIN 63	4.85 V	PIN 15	0.46 V	PIN 15	0 V
PIN 16	4.85 V	PIN 64	4.73 V	PIN 16	2.76 V	PIN 16	0 V
PIN 17	1.64 V	PIN 65	0.03 V	PIN 17	2.51 V	PIN 17	1.01 V
PIN 18	0 V	PIN 66	0.85 V	PIN 18	2.53 V	PIN 18	1.47 V
PIN 19	0 V	PIN 67	4.85 V	PIN 19	2.53 V	PIN 19	1.60 V
PIN 20	0 V	PIN 68	4.85 V	PIN 20	1.46 V	PIN 20	1.44 V
PIN 21	4.30 V	PIN 69	4.85 V	PIN 21	1.89 V	PIN 21	1.64 V
PIN 22	3.88 V	PIN 70	0 V	PIN 22	2.53 V	PIN 22	1.79 V
PIN 23	4.24 V	PIN 71	4.85 V	PIN 23	1.21 V	PIN 23	1.88 V
PIN 24	4.85 V	PIN 72	2.42 V	PIN 24	4.98 V	PIN 24	1.95 V
PIN 25	0 V			PIN 25	4.98 V	PIN 25	1.98 V
PIN 26	0 V			PIN 26	4.98 V	PIN 26	0 V
PIN 27	0 V			PIN 27	0.71 V	PIN 27	0 V
PIN 28	0 V			PIN 28	0 V	PIN 28	0 V
PIN 29	4.74 V			PIN 29	4.52 V	PIN 29	1.48 V
PIN 30	4.84 V			PIN 30	3.02 V	PIN 30	0.7 V
PIN 31	4.85 V			PIN 31	0 V	PIN 31	1.74 V
PIN 32	0 V			PIN 32	4.88 V	PIN 32	0.94 V
PIN 33	4.85 V			PIN 33	1.67 V	PIN 33	1.04 V
PIN 34	2.42 V			PIN 34	0.36 V	PIN 34	0.67 V
PIN 35	2.42 V			PIN 35	4.49 V	PIN 35	1.02 V
PIN 36	0 V			PIN 36	0 V	PIN 36	0.65 V
PIN 37	2.37 V			PIN 37	1.87 V	PIN 37	1.38 V
PIN 38	2.37 V			PIN 38	2.76 V	PIN 38	0.72 V
PIN 39	0 V			PIN 39	1.12 V	PIN 39	1.9 V
PIN 40	4.49 V			PIN 40	1.75 V	PIN 40	0.94 V
PIN 41	4.85 V			PIN 41	1.29 V	PIN 41	0.64 V
PIN 42	2.42 V			PIN 42	0.97 V	PIN 42	0.68 V
PIN 43	0.36 V			PIN 43	1.74 V	PIN 43	0.98 V
PIN 44	2.43 V			PIN 44	1.74 V	PIN 44	1.05 V
PIN 45	0 V			PIN 45	1.74 V	PIN 45	1.82 V
PIN 46	0 V			PIN 46	0 V	PIN 46	0 V
PIN 47	4.89 V			PIN 47	0 V	PIN 47	0 V
PIN 48	4.77 V			PIN 48	4.88 V	PIN 48	0.02 V

	U10 AT5654	U2 LM4863	U3 CS4340	N706 CD4094	U1 F4558D	U6 PT2257S
PIN 1	1.49 V	0.2 V	3.11 V	0.03 V	2.93 V	2.32 V
PIN 2	2.41 V	0.25 V	0 V	4.97 V	2.74 V	2.32 V
PIN 3	2.39 V	2.48 V	1.55 V	4.97 V	2.74 V	0 V
PIN 4	1.76 V	5.03 V	1.46 V	4.88 V	0 V	3.08 V
PIN 5	1.46 V	2.48 V	1.58 V	4.88 V	2.74 V	3.08 V
PIN 6	1.46 V	0 V	0 V	4.88 V	2.74 V	4.82 V
PIN 7	2.31 V	0.4 V	4.87 V	4.88 V	2.92 V	0 V
PIN 8	0 V	2.47 V	0 V	0 V	4.98 V	2.31 V
PIN 9	4.9 V	0.42 V	4.74 V	0 V		
PIN 10	4.9 V	0.36 V	1.93 V	4.88 V		
PIN 11	0 V	0 V	0 V	0.06 V		
PIN 12	1.84 V	0 V	2.14 V	4.87 V		
PIN 13	3.06 V	2.48 V	0 V	0 V		
PIN 14	2.26 V	2.48 V	4.87 V	0 V		
PIN 15	2.68 V	2.48 V	2.14 V	4.88 V		
PIN 16	2.36 V	2.48 V	4.87 V	4.88 V		
PIN 17	2.58 V	5.03 V				
PIN 18	2.34 V	2.48 V				
PIN 19	2.76 V	0 V				
PIN 20	2.56 V	1.23 V				
PIN 21	2.56 V					
PIN 22	4.91 V					
PIN 23	0 V					
PIN 24	-0.02 V					
PIN 25	0.26 V					
PIN 26	2.53 V					
PIN 27	2.53 V					
PIN 28	1.46 V					
PIN 29	1.46 V					
PIN 30	3.05 V					

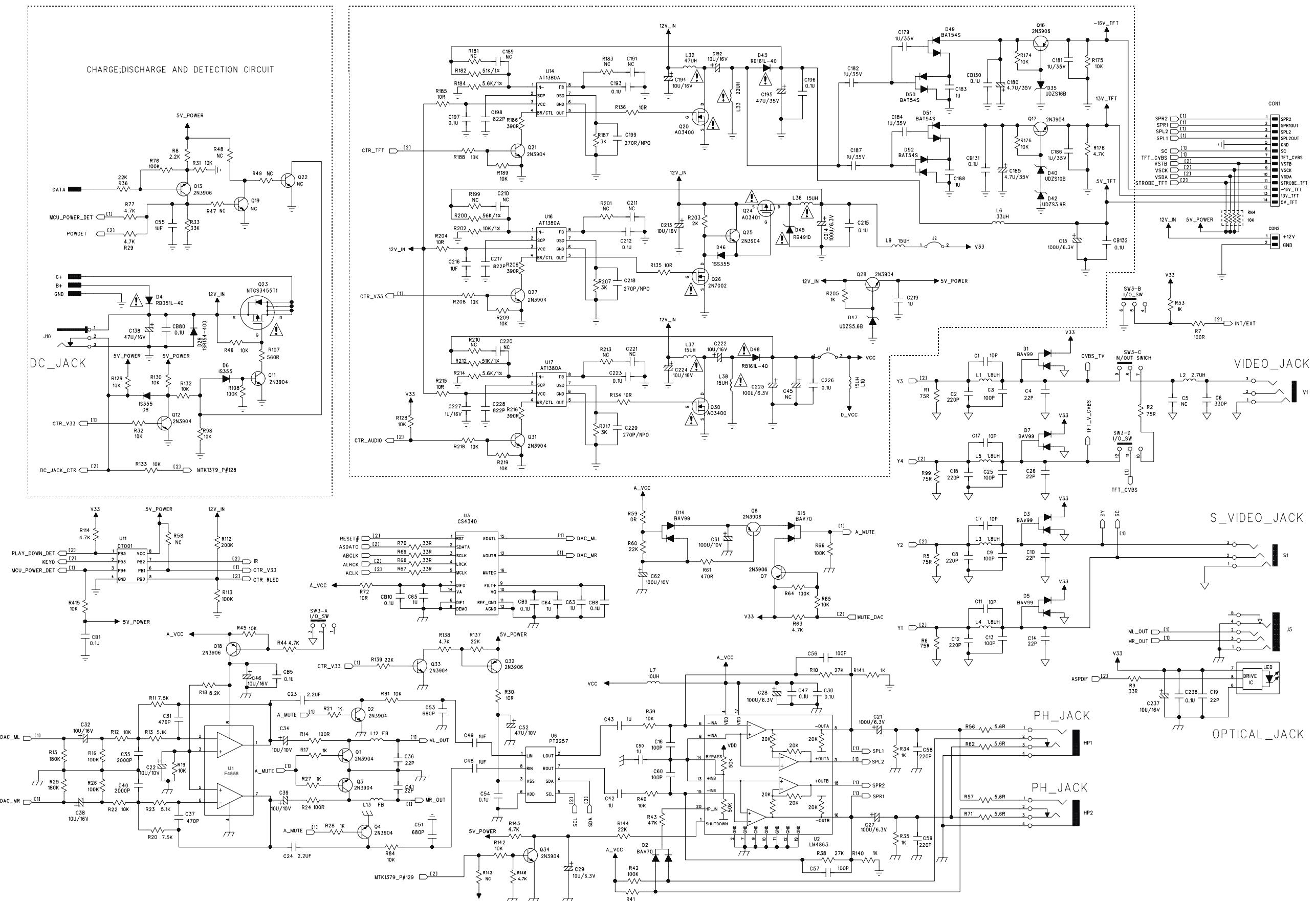
	N705 NUM3414	U14 AT1380AP	U16 AT1380AP	U17 AT1380AP	U11 CT001	U7 BR24C02F	N709 NTM2107F
PIN 1	5.96 V	0.51 V	0.51 V	0.51 V	3.91 V	0 V	1.55 V
PIN 2	3.02 V	0.06 V	0.06 V	0.06 V	4.79 V	0 V	4.88 V
PIN 3	3.02 V	0.12 V	11.74 V	11.82 V	0 V	0 V	2.36 V
PIN 4	0 V	0.22 V	0.22 V	0.22 V	0 V	0 V	0 V
PIN 5	0 V	1.24 V	1.2 V	2.05 V	4.97 V	3.08 V	2.35 V
PIN 6	5.94 V	0 V	0 V	0 V	4.87 V	3.08 V	
PIN 7	5.94 V	0.32 V	0.28 V	0.3 V	0 V	0 V	
PIN 8	13.1 V	0.21 V	0.26 V	0.2 V	4.97 V	3.11 V	

TRANSISTOR

Ref. No.	TRANSISTOR	PIN E	PIN B	PIN C
Q1	MMBT3904LT1	0 V	0 V	0 V
Q2	MMBT3904LT1	0 V	0 V	0 V
Q3	MMBT3904LT1	0 V	0 V	0 V
Q4	MMBT3904LT1	0 V	0 V	0 V
Q5	MMBT3904LT1	0 V	0.63 V	0 V
Q6	MMBT3906LT1	4.9 V	5.1 V	1.27 V
Q7	MMBT3906LT1	3.1 V	3.1 V	0 V
Q8	MMBT3906LT1	3.1 V	2.28 V	3.08 V
Q9	2SB1132	2.57 V	1.92 V	2.28 V
Q10	2SB1132	3.1 V	3.05 V	0 V
Q11	MMBT3904LT1	0 V	0 V	11.9 V
Q12	MMBT3904LT1	0 V	0.68 V	0 V
Q13	MMBT3906LT1	4.1 V	4 V	0 V
Q14	MMBT3906LT1	4.97 V	4.97 V	0 V
Q15	MMBT3906LT1	2.0 V	1.28 V	1.96 V
Q16	MMBT3906LT1	-15.8 V	-16.39 V	-32.5 V
Q17	MMBT3904LT1	13.06 V	13.64 V	32.1 V
Q18	MMBT3906LT1	4.32 V	0 V	4.98 V
Q20	A03400	0 V	1.2 V	11.9 V
Q21	MMBT3904LT1	0 V	0.61 V	0 V
Q24	A03401	3.41 V	0.07 V	11.85 V
Q25	MMBT3904LT1	10.46 V	9.11 V	11.86 V
Q26	2N7002	0 V	2.1 V	10.22 V
Q27	MMBT3904LT1	0 V	0.65 V	0 V
Q28	MMBT3904LT1	4.97 V	5.65 V	11.9 V
Q29	XP162A12A6PR	11.9 V	11.9 V	0 V
Q30	A03400	0 V	1.07 V	11.9 V
Q31	MMBT3904LT1	0 V	0.61 V	0 V
Q32	MMBT3906LT1	4.97 V	4.24 V	4.9 V
Q33	MMBT3904LT1	0 V	0.65 V	0.03 V
Q34	MMBT3904LT1	0 V	0.65 V	0 V
Q601	HFE200	3 V	3.7 V	4.85 V
VD702	HFE200	0 V	2.56 V	0 V
VD716	2SC2411KR	2.03 V	2.6 V	4.18 V
VD717	MMBT3904LT1	0 V	0 V	4.8 V

SCHEMATIC DIAGRAMS

MAIN PCB - 1

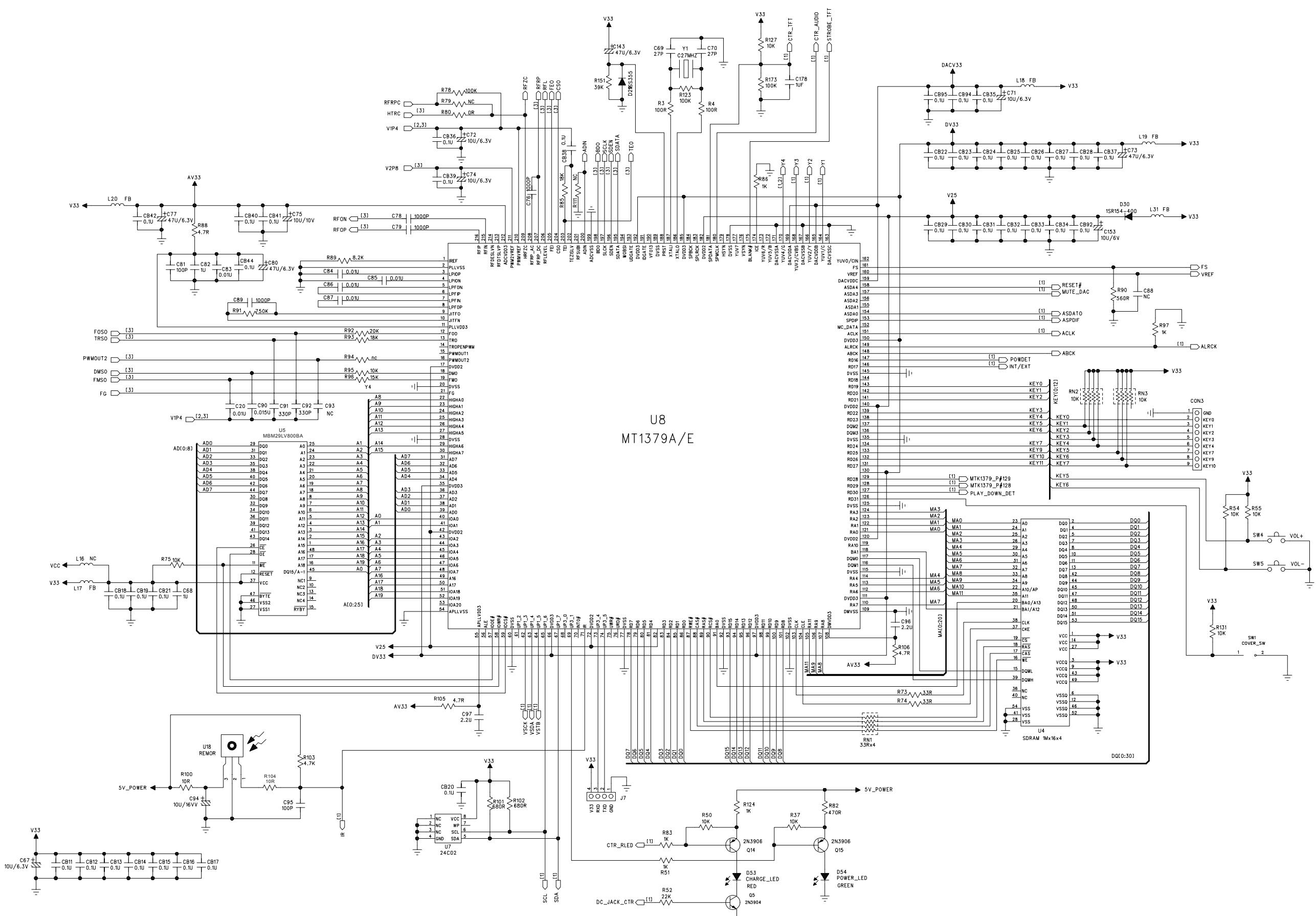


Notes :

1. All resistance values are indicated in "ohms" ($K=1000$ ohms, $M=1000$ Kohms).
2. All capacitance values are indicated in " μF " ($p=10^{-6}$ μF).

SCHEMATIC DIAGRAMS - CONTINUED

MAIN PCB - 2

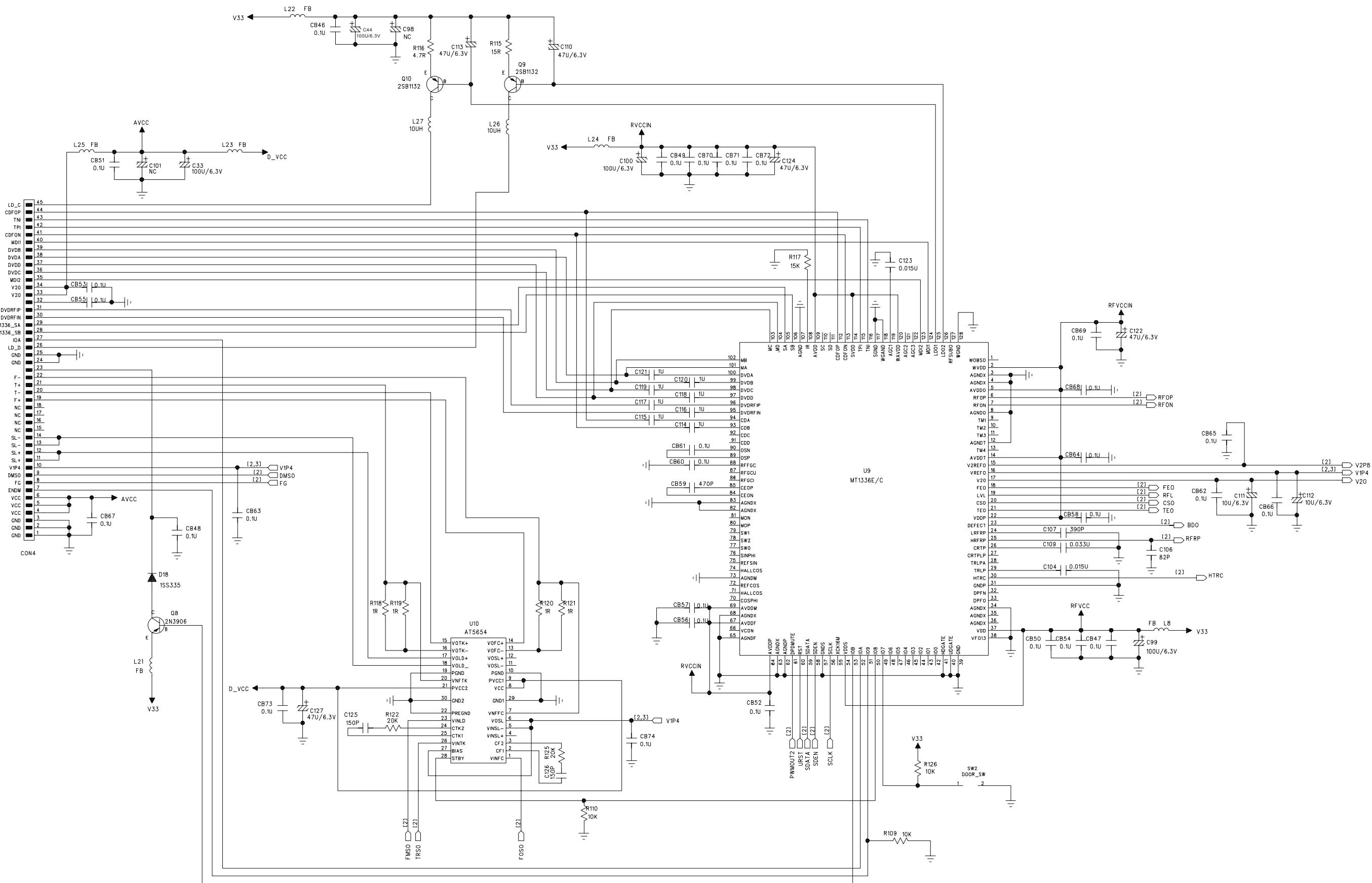


Notes :

1. All resistance values are indicated in "ohms" (K=1000 ohms, M=1000 Kohms).
2. All capacitance values are indicated in "μF" (μ = 10^{-6} μF).

SCHEMATIC DIAGRAMS - CONTINUED

MAIN PCB - 3

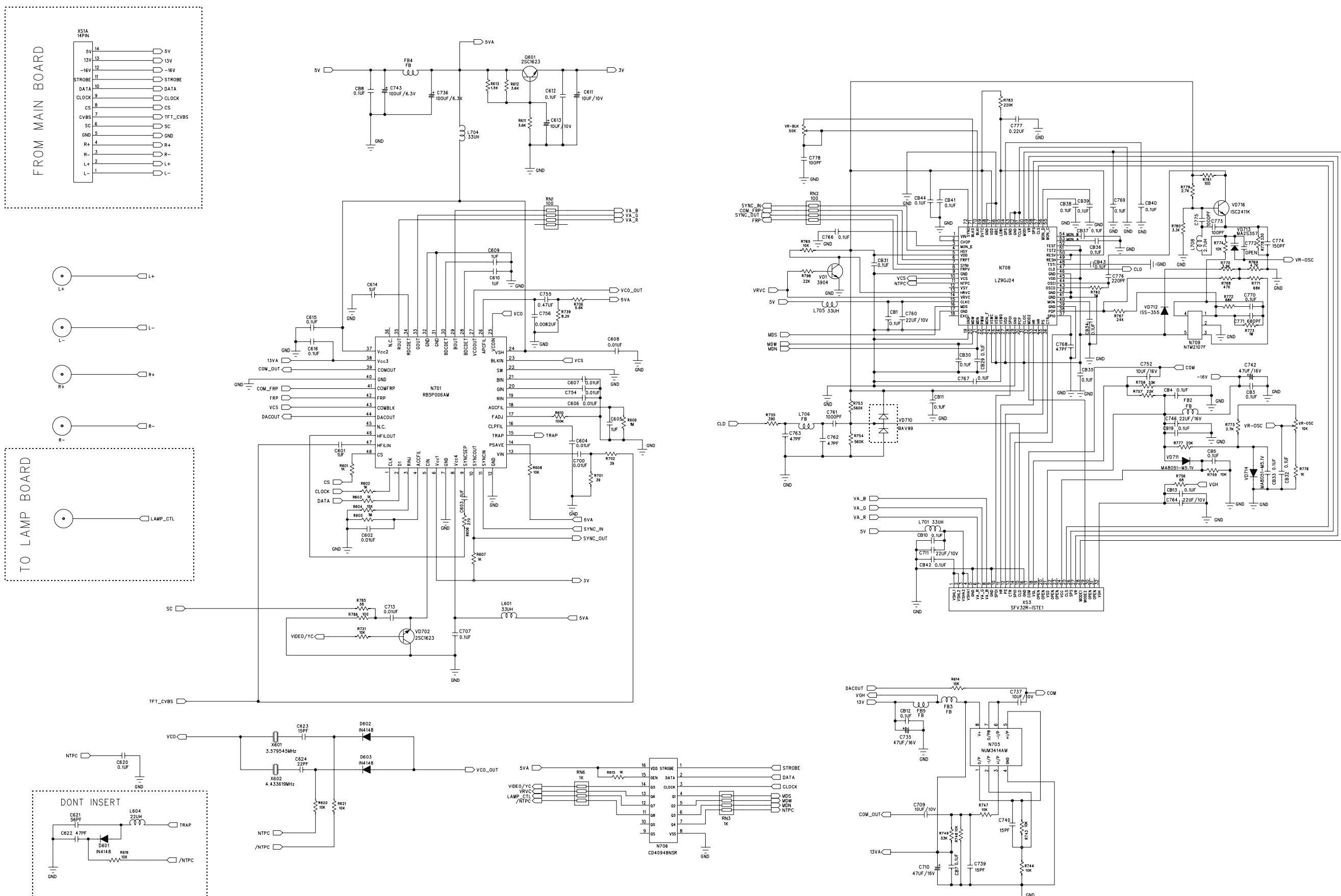


Notes :

1. All resistance values are indicated in “ohms” ($K=1000$ ohms, $M=1000$ Kohms).
2. All capacitance values are indicated in “ μF ” ($p=10^{-6}$ μF).

SCHEMATIC DIAGRAMS - CONTINUED

DRIVER PCB

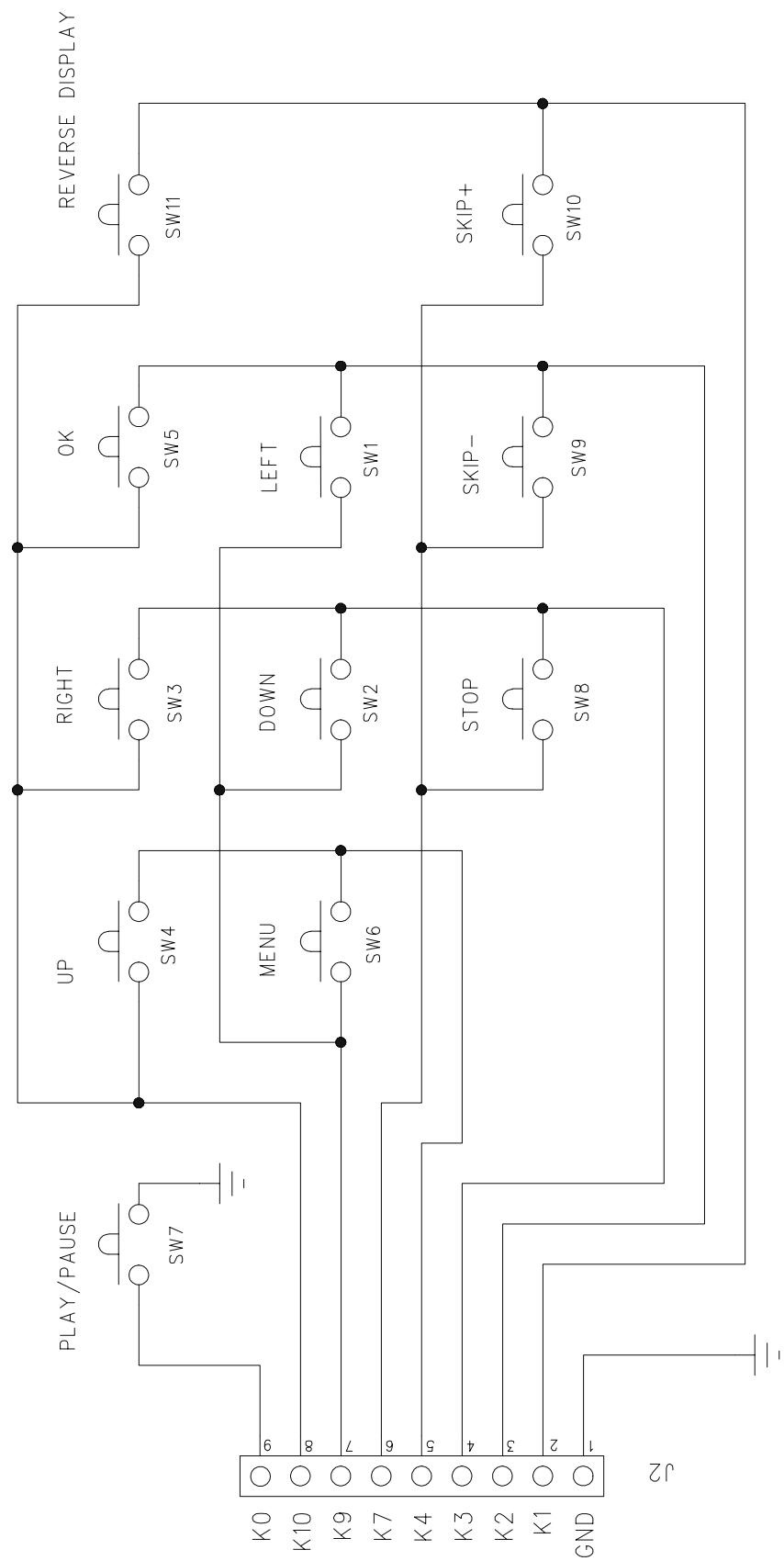


Notes :

1. All resistance values are indicated in "ohms" (K=1000 ohms, M=1000 Kohms).
2. All capacitance values are indicated in "μF" (μ F = 10^{-6} μF).

SCHEMATIC DIAGRAMS - CONTINUED

KEY PCB



Notes :

1. All resistance values are indicated in "ohms" (K=1000 ohms, M=1000 Kohms).
2. All capacitance values are indicated in " μF " ($\text{p}=10^{-6} \mu\text{F}$)

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